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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,063	09/29/2003	Chan-jung Park	1594.1260	4703

21 (7) 7590 04/29/2005

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EXAMINER

CHIESA, RICHARD L

ART UNIT PAPER NUMBER

1724

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/672,063

Applicant(s)

PARK ET AL.

Examiner

Richard L. Chiesa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-33, 35 and 40-42 is/are allowed.
- 6) ☒ Claim(s) 1-19, 34 and 36-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings filed on September 29, 2003 are accepted by the examiner.

### ***Specification***

3. The disclosure is objected to because the word "ionizier" on the seventh line of paragraph [0042] on page 8 should be changed to --ionizer--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicants are advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-4, 6, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art as described on pages 1-3 of the specification and shown in Figures 1 and 2 of the drawings in view of either one of Liu et al or Chang et al. The admitted prior art, as described on pages 1-3 of the specification and shown in Figures 1 and 2 of the drawings, discloses a dust collecting apparatus with an ionizer discharge wire electrode, plurality of ground electrodes, and either a downstream fibrous filter or collecting plates of opposite polarity substantially as claimed. It would appear that the admitted prior art does not explicitly state that the fibrous filter is a metallic fibrous filter. However, each one of Liu et al (note ref. num. 36, 40, Figs. 1, 2; col. 5, lines 40-47; col. 8, lines 22-37) and Chang et al (note ref. num. 15, 20, Fig. 1; col. 1, line 65 to col. 2, line 65) teach the well-known use of a metallic fibrous filter downstream of an ionizer discharge wire electrode in a dust collector for the purpose of ensuring maximum particle deposition. Consequently, it would have been readily obvious to one of ordinary skill in the art to employ a metallic fibrous filter in the admitted prior art dust collector in order to facilitate particle capture as taught by either one of Liu et al or Chang et al.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art or the admitted prior art, taken together with Liu et al, as described above in paragraph 6 in

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view of Chang et al. The admitted prior art or the admitted prior art taken together with Liu et al, as described above in paragraph 6, discloses a dust collector substantially as claimed with the possible exception of needle-shaped discharge electrodes. Chang et al (note ref. num. 20, Fig. 1, and col. 2, lines 50-65) teach the well-known use of needle-shaped discharge electrodes in a dust collector for the purpose of facilitating corona discharge. It would have been obvious to one of ordinary skill in the art to employ needle-shaped discharge electrodes in either the admitted prior art or the admitted prior art and Liu et al dust collector in order to improve corona discharge as taught by Chang et al.

8. Claims 7-19, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 1 in paragraph 6 above, and further in view of Nohr et al. The prior art, as described above in paragraph 6, discloses a dust collector substantially as claimed with the possible exception of sterilization, odor removal, multi-sheet filter construction, and a variety of different metal fibers. However, Nohr et al (note col. 1, lines 15-29; col. 5, line 1 to col. 8, line 60) teach these well-known dust collector expedients for the purpose of maximizing pollutant removal and for this same reason it would have been obvious to one of ordinary skill in the art to employ these expedients in any one of the prior art dust collectors described above.

***Allowable Subject Matter***

9. Claims 20-33, 35, and 40-42 are allowed.

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10. The following is a statement of reasons for the indication of allowable subject matter: Claims 20-33, 35, and 40-42 are allowable because the prior art fails to teach or fairly suggest the recited dust collector with the recited ionizer, metal filter, and electrostatic filter in the recited positioning and operative relationship.

11. As allowable subject matter has been indicated, applicants' reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. These references have been cited as art of interest to show other electrical dust collectors.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard L. Chiesa whose telephone number is (571) 272-1154.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane S. Smith, can be reached at (571) 272-1166.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (571) 272-0987.

Facsimile correspondence must be transmitted through (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard L. Chiesa  
April 27, 2005

*Richard L. Chiesa*

**RICHARD L. CHIESA  
PRIMARY EXAMINER  
ART UNIT 1724**

*April 27, 2005*